WHAT IS CLAIMED IS:

1. A method for preventing or inhibiting neuronal degeneration, or for promoting nerve regeneration, in the central nervous system (CNS) or peripheral nervous system (PNS), or for protecting nerves from glutamate toxicity, which comprises administering to an individual in need thereof an amount of poly-Glu,Tyr effective to prevent or inhibit neuronal degeneration, or to promote nerve regeneration, in the CNS or PNS, or to protect nerves from glutamate toxicity.

2. A method in accordance with claim 1, for reducing neuronal degeneration caused by the neurodegenerative effects of an injury, disease, disorder or condition in the CNS or PNS of the individual in need, which comprises administering poly-Glu,Tyr in an amount effective to reduce the neurodegeneration at the site.

3. A method in accordance with claim 2, wherein the individual in need is one suffering from an injury that has caused primary neuronal damage.

4. A method in accordance with claim 3, wherein said injury is selected from the group consisting of spinal cord injury, closed head injury, blunt trauma, penetrating trauma, hemorrhagic stroke, ischemic stroke, cerebral ischemia, optic nerve injury, myocardial infarction and injury caused by tumor excision.

5. A method in accordance with claim 4 wherein said injury is spinal cord injury.

6. A method in accordance with claim 4 wherein said injury is ischemic stroke.

7. A method in accordance with claim 2, wherein said disease, disorder or condition is a neurodegenerative disease, disorder or condition associated with the eye.

8. A method in accordance with claim 7, wherein said neurodegenerative condition, disorder or disease associated with the eye is non-arteritic optic

neuropathy, age-related macular degeneration, a retinal disorder or a disease associated with elevated intraocular pressure.

9. A method in accordance with claim 8, wherein said disease associated with elevated intraocular pressure is glaucoma.

10. A method in accordance with claim 1 for treating an injury, disease, disorder or condition caused or exacerbated by glutamate toxicity, which comprises administering poly-Glu,Tyr to the individual in need in an amount effective to ameliorate the neurodegeneration caused or exacerbated by glutamate toxicity.

11. A method in accordance with claim 10, wherein said disease, disorder or condition caused or exacerbated by glutamate toxicity is a neurodegenerative disease, disorder or condition.

12. A method in accordance with claim 11, wherein said neurodegenerative disease, disorder or condition is selected from the group consisting of a Alzheimer's type senile dementia, a non-Alzheimer's type senile dementia, Parkinson's disease, facial nerve (Bell's) palsy, glaucoma, Huntington's chorea, amyotrophic lateral sclerosis (ALS), Alper's disease, Batten disease, Cockayne syndrome, Guillain-Barré syndrome, Lewy body disease, and Creutzfeldt-Jakob disease.

13. A method in accordance with claim 10, wherein said disease, disorder or condition caused or exacerbated by glutamate toxicity is a peripheral neuropathy.

14. A method in accordance with claim 13, wherein said peripheral neuropathy is a mononeuropathy or polyneuropathy selected from the group consisting of adrenomyeloneuropathy, alcoholic neuropathy, amyloid neuropathy or polyneuropathy, axonal neuropathy, chronic sensory ataxic neuropathy associated with Sjogren's syndrome, diabetic neuropathy, an entrapment neuropathy nerve compression syndrome, carpal tunnel syndrome, a nerve root compression that may follow cervical or lumbar intervertebral disc herniation, giant axonal neuropathy, hepatic neuropathy, ischemic neuropathy, nutritional polyneuropathy due to vitamin

deficiency, malabsorption syndromes or alcoholism, porphyric polyneuropathy, a toxic neuropathy caused by organophosphates, uremic polyneuropathy, a neuropathy associated with a disease or disorder selected from the group consisting of acromegaly, ataxia telangiectasia, Charcot-Marie-Tooth disease, chronic obstructive pulmonary diseases, Fabry's disease, Friedreich ataxia, Guillain-Barré syndrome, hypoglycemia, IgG or IgA monoclonal gammopathy (non-malignant or associated with multiple myeloma or with osteosclerotic myeloma), lipoproteinemia, polycythemia vera, Refsum's syndrome, Reye's syndrome, and Sjogren-Larsson syndrome, a polyneuropathy associated with various drugs, with hypoglycemia, with infections such as HIV infection, or with cancer.

15. A method in accordance with claim 10 for treatment of epilepsy, amnesia, anxiety, hyperalgesia, psychosis, seizures, oxidative stress, or opiate tolerance and dependence.

16. A method in accordance with claim 1 for the treatment of a psychosis or psychiatric disorder selected from the group consisting of an anxiety disorder, a mood disorder, schizophrenia or a schizophrenia-related disorder, drug use and dependence and withdrawal, and a memory loss or cognitive disorder.

17. A method in accordance with claim 16 wherein said anxiety disorder is selected from the group consisting of a phobic disorder, an obsessive-compulsive disorder, a post-traumatic stress disorder, an acute stress disorder and a generalized anxiety disorder; said mood disorder is selected from the group consisting of depression, a dysthymic disorder, a bipolar disorder and a cyclothymic disorder; said schizophrenia-related disorder is selected from the group consisting of brief psychotic disorder, schizophreniform disorder, schizoaffective disorder and delusional disorder; said drug use and dependence is selected from the group consisting of alcoholism, opiate dependence, cocaine dependence, amphetamine dependence, hallucinogen dependence, and phencyclidine use; and said memory loss disorder is amnesia or memory loss associated with a disease or disorder

selected from the group consisting of Alzheimer's type dementia, non-Alzheimer's type dementia, Parkinson's disease, Huntington's disease, Creutzfeld-Jakob disease, head trauma, HIV infection, hypothyroidism and vitamin B12 deficiency.

18. A method in accordance with claim 17 for treatment of schizophrenia.

19. A method in accordance with claim 1 for preventing or inhibiting neuronal degeneration upon exposure to a neurotoxin.

20. A method in accordance with claim 19 wherein said neurotoxin is an organophosphate nerve gas.

21. A method for down-regulation of the suppressive activity of $CD4^+CD25^+$ regulatory T cells (Treg) on $CD4^+CD25^-$ effector T cells (Teff) in an individual suffering from a neurological or neurodegenerative injury, condition, disorder or disease, which comprises administering to said individual in need an amount of the copolymer poly-Glu,Tyr effective for the treatment of said neurological or neurodegenerative injury, condition, disorder or disease.

22. A method in accordance with claim 21, wherein the individual in need is one suffering from secondary neuronal degeneration injury caused by a primary neuronal injury, and poly-Glu,Tyr is administered to said individual in need in an amount effective for reducing neuronal degeneration caused by said primary injury.

23. A method in accordance with claim 22, wherein said injury is selected from the group consisting of spinal cord injury, closed head injury, blunt trauma, penetrating trauma, hemorrhagic stroke, ischemic stroke, cerebral ischemia, optic nerve injury, myocardial infarction and injury caused by tumor excision.

24. A method in accordance with claim 23, wherein said injury is spinal cord injury.

25. A method in accordance with claim 23 wherein said injury is ischemic stroke.

26. A method in accordance with claim 21 for treating an injury, disease, disorder or condition caused or exacerbated by glutamate toxicity, which comprises administering poly-Glu,Tyr to the individual in need in an amount effective to ameliorate the neurodegeneration caused or exacerbated by glutamate toxicity.

27. A method in accordance with claim 26, wherein said neurological or neurodegenerative condition, disorder or disease is associated with the eye.

28. A method in accordance with claim 27, wherein said neurodegenerative condition, disorder or disease associated with the eye is non-arteritic optic neuropathy, age-related macular degeneration, a retinal disorder or a disease associated with elevated intraocular pressure.

29. A method in accordance with claim 28, wherein said disease associated with elevated intraocular pressure is glaucoma.

30. A method in accordance with claim 26, wherein said disease, disorder or condition caused or exacerbated by glutamate toxicity is a neurodegenerative disease, disorder or condition.

31. A method in accordance with claim 30, wherein said disease, disorder or condition caused or exacerbated by glutamate toxicity is a neurodegenerative disease selected from the group consisting of a Alzheimer's type senile dementia, a non-Alzheimer's type senile dementia, Parkinson's disease, facial nerve (Bell's) palsy, glaucoma, Huntington's chorea, amyotrophic lateral sclerosis (ALS), Alper's disease, Batten disease, Cockayne syndrome, Lewy body disease, Guillain-Barré syndrome, and Creutzfeldt-Jakob disease.

32. A method in accordance with claim 26, wherein said disease, disorder or condition caused or exacerbated by glutamate toxicity is a peripheral neuropathy.

33. A method in accordance with claim 32, wherein said peripheral neuropathy is a mononeuropathy or polyneuropathy selected from the group consisting of

adrenomyeloneuropathy, alcoholic neuropathy, amyloid neuropathy or polyneuropathy, axonal neuropathy, chronic sensory ataxic neuropathy associated with Sjogren's syndrome, diabetic neuropathy, an entrapment neuropathy nerve compression syndrome such as carpal tunnel syndrome or a nerve root compression that may follow cervical or lumbar intervertebral disc herniation, giant axonal neuropathy, hepatic neuropathy, ischemic neuropathy, nutritional polyneuropathy due to vitamin deficiency, malabsorption syndromes or alcoholism, porphyric polyneuropathy, a toxic neuropathy caused by organophosphates, uremic polyneuropathy, a neuropathy associated with a disease or disorder selected from the group consisting of acromegaly, ataxia telangiectasia, Charcot-Marie-Tooth disease, chronic obstructive pulmonary diseases, Fabry's disease, Friedreich ataxia, Guillain-Barré syndrome, hypoglycemia, IgG or IgA monoclonal gammopathy (non-malignant or associated with multiple myeloma or with osteosclerotic myeloma), lipoproteinemia, polycythemia vera, Refsum's syndrome, Reye's syndrome, and Sjogren-Larsson syndrome, a polyneuropathy associated with various drugs, with hypoglycemia, with infections such as HIV infection, or with cancer.

34. A method in accordance with claim 21, for treatment of epilepsy, amnesia, anxiety, hyperalgesia, psychosis, seizures, abnormally elevated intraocular pressure, oxidative stress, or opiate tolerance and dependence.

35. A method in accordance with claim 21, for the treatment of a psychosis or psychiatric disorder selected from the group consisting of an anxiety disorder, a mood disorder, schizophrenia or a schizophrenia-related disorder, drug use and dependence and withdrawal, and a memory loss or cognitive disorder.

36. A method in accordance with claim 35, wherein said anxiety disorder is selected from the group consisting of a phobic disorder, an obsessive-compulsive disorder, a post-traumatic stress disorder, an acute stress disorder and a generalized anxiety disorder; said mood disorder is selected from the group consisting of

depression, a dysthymic disorder, a bipolar disorder and a cyclothymic disorder; said schizophrenia-related disorder is selected from the group consisting of brief psychotic disorder, schizophreniform disorder, schizoaffective disorder and delusional disorder; said drug use and dependence is selected from the group consisting of alcoholism, opiate dependence, cocaine dependence, amphetamine dependence, hallucinogen dependence, and phencyclidine use; and said memory loss disorder is amnesia or memory loss associated with a disease or disorder selected from the group consisting of Alzheimer's type dementia, non-Alzheimer's type dementia, Parkinson's disease, Huntington's disease, Creutzfeld-Jakob disease, head trauma, HIV infection, hypothyroidism and vitamin B12 deficiency.

37. A method in accordance with claim 36, for treatment of schizophrenia.

38. A method in accordance with claim 21, for preventing or inhibiting neuronal degeneration upon exposure to a neurotoxin.

39. A method in accordance with claim 38, wherein said neurotoxin is an organophosphate nerve gas.

40. A method for conferring neuroprotection to an individual suffering from a neurological injury, which comprises administering poly-Glu,Tyr to the individual in need in an amount effective to ameliorate the neurodegeneration associated with said neurological injury.

41. A method in accordance with claim 40, wherein said neurological injury is a neuronal degeneration caused by acute or chronic injury.

42. A method in accordance with claim 41, wherein said injury is selected from the group consisting of spinal cord injury, closed head injury, blunt trauma, penetrating trauma, hemorrhagic stroke, ischemic stroke, cerebral ischemia, optic nerve injury, myocardial infarction and injury caused by tumor excision.

43. A method in accordance with claim 42, wherein said injury is spinal cord injury.

44. A method in accordance with claim 42, wherein said injury is ischemic stroke.

45. A method for conferring neuroprotection to an individual suffering from a neurological or neurodegenerative disease, disorder or condition, which comprises administering poly-Glu,Tyr to the individual in need in an amount effective to ameliorate the neurodegeneration associated with said neurological or neurodegenerative disease, disorder or condition.

46. A method in accordance with claim 45, wherein said neurodegenerative disease, disorder or condition is a disease, disorder or condition caused or exacerbated by glutamate toxicity.

47. A method in accordance with claim 46, wherein said neurodegenerative condition, disorder or disease is associated with the eye.

48. A method in accordance with claim 47, wherein said neurodegenerative condition, disorder or disease associated with the eye is non-arteritic optic neuropathy, age-related macular degeneration, a retinal disorder or a disease associated with elevated intraocular pressure.

49. A method in accordance with claim 49, wherein said disease associated with elevated intraocular pressure is glaucoma.

50. A method in accordance with claim 45, wherein said neurodegenerative condition, disease or disorder is selected from the group consisting of Alzheimer-type senile dementia, non-Alzheimer-type senile dementia, Parkinson's disease, facial nerve (Bell's) palsy, Huntington's chorea, amyotrophic lateral sclerosis, a prion disease including Creutzfeldt-Jakob disease, Alper's disease, Batten disease, Cockayne syndrome, Guillain-Barré syndrome, and Lewy body disease.

51. A method in accordance with claim 45, wherein said neurodegenerative condition, disorder or disease is a peripheral neuropathy.

52. A method in accordance with claim 51, wherein said peripheral neuropathy is a mononeuropathy or polyneuropathy selected from the group consisting of adrenomyeloneuropathy, alcoholic neuropathy, amyloid neuropathy or polyneuropathy, axonal neuropathy, chronic sensory ataxic neuropathy associated with Sjogren's syndrome, diabetic neuropathy, an entrapment neuropathy nerve compression syndrome such as carpal tunnel syndrome or a nerve root compression that may follow cervical or lumbar intervertebral disc herniation, giant axonal neuropathy, hepatic neuropathy, ischemic neuropathy, nutritional polyneuropathy due to vitamin deficiency, malabsorption syndromes or alcoholism, porphyric polyneuropathy, a toxic neuropathy caused by organophosphates, uremic polyneuropathy, a neuropathy associated with a disease or disorder selected from the group consisting of acromegaly, ataxia telangiectasia, Charcot-Marie-Tooth disease, chronic obstructive pulmonary diseases, Fabry's disease, Friedreich ataxia, Guillain-Barré syndrome, hypoglycemia, IgG or IgA monoclonal gammopathy (non-malignant or associated with multiple myeloma or with osteosclerotic myeloma), lipoproteinemia, polycythemia vera, Refsum's syndrome, Reye's syndrome, and Sjogren-Larsson syndrome, a polyneuropathy associated with various drugs, with hypoglycemia, with infections such as HIV infection, or with cancer.

53. A method for conferring neuroprotection to an individual suffering from a neurological or neurodegenerative disease, disorder or condition selected from the group consisting of epilepsy, amnesia, anxiety, hyperalgesia, psychosis, seizures, oxidative stress, or opiate tolerance and dependence, which comprises administering poly-Glu,Tyr to the individual in need in an amount effective to ameliorate said neurological or neurodegenerative disease, disorder or condition in said individual.

54. A method in accordance with claim 53, wherein said neurological or neurodegenerative condition, disorder or disease is a psychosis or psychiatric disorder selected from the group consisting of an anxiety disorder, a mood disorder, schizophrenia or a schizophrenia-related disorder, drug use and dependence and withdrawal, and a memory loss or cognitive disorder.

55. A method in accordance with claim 54, wherein said anxiety disorder is selected from the group consisting of a phobic disorder, an obsessive-compulsive disorder, a post-traumatic stress disorder, an acute stress disorder and a generalized anxiety disorder; said mood disorder is selected from the group consisting of depression, a dysthymic disorder, a bipolar disorder and a cyclothymic disorder; said schizophrenia-related disorder is selected from the group consisting of brief psychotic disorder, schizophreniform disorder, schizoaffective disorder and delusional disorder; said drug use and dependence is selected from the group consisting of alcoholism, opiate dependence, cocaine dependence, amphetamine dependence, hallucinogen dependence, and phencyclidine use; and said memory loss disorder is amnesia or memory loss associated with a disease or disorder selected from the group consisting of Alzheimer's type dementia, non-Alzheimer's type dementia, Parkinson's disease, Huntington's disease, Creutzfeld-Jakob disease, head trauma, HIV infection, hypothyroidism and vitamin B12 deficiency.

56. A method in accordance with claim 55, for treatment of schizophrenia.

57. A method in accordance with claim 45, for conferring neuroprotection and preventing or inhibiting neuronal degeneration in an individual upon exposure to a neurotoxin.

58. A method in accordance with claim 57, wherein said neurotoxin is an organophosphate nerve gas.

59. An article of manufacture comprising packaging material and a pharmaceutical composition contained within the packaging material, said

pharmaceutical composition comprising poly-Glu,Tyr; and said packaging material includes a label that indicates that poly-Glu,Tyr is therapeutically effective for conferring neuroprotection to an individual suffering from a neurological or neurodegenerative injury, disease, disorder or condition.

60. An article of manufacture in accordance with claim 59 wherein said label indicates that poly-Glu,Tyr is therapeutically effective for conferring neuroprotection to an individual suffering from a neurological injury.

61. An article of manufacture in accordance with claim 60, wherein said neurological injury is a neuronal degeneration caused by acute or chronic injury.

62. An article of manufacture in accordance with claim 61, wherein said injury is selected from the group consisting of spinal cord injury, closed head injury, blunt trauma, penetrating trauma, hemorrhagic stroke, ischemic stroke, cerebral ischemia, optic nerve injury, myocardial infarction and injury caused by tumor excision.

63. An article of manufacture comprising packaging material and a pharmaceutical composition contained within the packaging material, said pharmaceutical composition comprising poly-Glu,Tyr; and said packaging material includes a label that indicates that poly-Glu,Tyr is therapeutically effective for conferring neuroprotection to an individual that suffered a spinal cord injury.

64. An article of manufacture comprising packaging material and a pharmaceutical composition contained within the packaging material, said pharmaceutical composition comprising poly-Glu,Tyr; and said packaging material includes a label that indicates that poly-Glu,Tyr is therapeutically effective for conferring neuroprotection to an individual suffering from a stroke.

65. An article of manufacture comprising packaging material and a pharmaceutical composition contained within the packaging material, said pharmaceutical composition comprising poly-Glu,Tyr; and said packaging material

includes a label that indicates that poly-Glu,Tyr is therapeutically effective for conferring neuroprotection to an individual suffering from glaucoma.

66. An article of manufacture in accordance with claim 59 wherein said label indicates that poly-Glu,Tyr is therapeutically effective for conferring neuroprotection to an individual suffering from a neurological or neurodegenerative condition, disease or disorder.

67. An article of manufacture in accordance with claim 66 wherein said neurological or neurodegenerative condition, disease or disorder is selected from the group consisting of Alzheimer-type senile dementia, non-Alzheimer-type senile dementia, Parkinson's disease, facial nerve (Bell's) palsy, Huntington's chorea, amyotrophic lateral sclerosis, a prion disease including Creutzfeldt-Jakob disease, Alper's disease, Batten disease, Cockayne syndrome, Guillain-Barré syndrome, and Lewy body disease.

68. An article of manufacture in accordance with claim 66 wherein said neurological or neurodegenerative condition, disease or disorder is a peripheral neuropathy.

69. An article of manufacture in accordance with claim 66 wherein said neurological or neurodegenerative condition, disease or disorder is selected from the group consisting of epilepsy, amnesia, anxiety, hyperalgesia, psychosis, seizures, oxidative stress, and opiate tolerance and dependence.

70. An article of manufacture in accordance with claim 66 wherein said neurological or neurodegenerative condition, disease or disorder is a psychiatric disorder.

71. An article of manufacture in accordance with claim 70 wherein said psychiatric disorder is schizophrenia.